III. Remarks

A. Status of the Application

Claims 1, 3-14, 16-19, 21-26, 28-37, and 39-47 will be pending after entry of the present paper. Claims 1, 3-14, 16-19, 21-26, 28-37, and 39-47 were previously pending. No claims are added or canceled by the present paper. Claims 1, 11, 19, 31, and 39 are amended by the present paper. No new matter is added by the amendments. Support for the amendments can be found at least in paragraphs [0033]-[0035] of the application. Reconsideration of the application is respectfully requested in light of the above amendments and the following remarks.

B. Claim Rejections – 35 U.S.C. § 103

1. Slager and Prause Patents

Claims 1, 3, 5-9, 11-14, 16-19, 21-29, 31-35, 37, 39, 40, and 42-46 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,148,095 to Prause ("Prause patent") in view of U.S. Patent No. 5,771,895 to Slager. ("Slager patent"). Applicants respectfully traverse this rejection for the following reasons.

As the PTO recognizes in MPEP § 2142:

> ... The examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. If the examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness...

In the present application, a *prima facie* case of obviousness has not been factually supported for the reasons set forth below.

35 U.S.C. §103(a) provides, in part, that:

> "A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time of the invention was made to a person having ordinary skill in the art . . .." (emphasis added)

Thus, when evaluating a claim for determining obviousness, all limitations of the claim must be evaluated. In that regard, MPEP § 2143.03 states that "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art." Quoting *In re Wilson* , 424 F.2d 1382, 1385 (CCPA 1970).

With respect to amended independent claim 1, even when combined the Prause and Slager patents fail to disclose or suggest "a device adapted to move said data-gathering probe

through a blood vessel at a substantially constant speed, wherein the data-gathering probe gathers data while being moved at the substantially constant speed; and a data-gathering device connected to said data-gathering probe and said heart-monitoring device and adapted to ... acquire said blood-vessel data during an interval substantially corresponding to said cyclical portion of said heartbeat data, wherein the data-gathering device is adapted to acquire said blood-vessel data during the interval while the data-gathering probe is moved through the blood vessel at the substantially constant speed in response to a probe-trigger marking a beginning of the cyclical portion; and permit analysis of the blood vessel as if the blood vessel was standing still without post processing selection of desired blood-vessel data, wherein the analysis of the blood vessel is utilized to classify vascular plaque of the blood vessel."

In that regard, as recognized in the Office Action, the Prause patent fails to disclose acquiring blood-vessel data in response to a probe-trigger marking a beginning of a cyclical portion of heartbeat data to permit analysis of the blood vessel as if the blood vessel was standing still without post processing selection of desired blood-vessel data in order to classify vascular plaque of the blood vessel. Also, while the Slager patent discloses electrocardiographic-gated image acquisition, the Slager patent utilizes step-wise pullbacks to do so. Accordingly, the ECG-gated image acquisition disclosed by the Slager patent is not performed while the data-gathering probe is moved through a blood vessel at a substantially constant speed as required by claim 1. Further, the embodiments of the Prause and Slager patents that utilize constant speed pull-backs require post processing of the data to select the appropriate data for analysis, contrary to the explicit requirements of claim 1. Further still, neither of the Prause or Slager patents discloses analysis of the blood vessel to classify vascular plaque of the blood vessel. Thus, even when combined the Prause and Slager patents fail to disclose all of the recited limitations of claim 1.

Claims 3, 5-9, and 42 depend from and further limit claim 1. Accordingly, Applicants request that the § 103 rejection of claims 1, 3, 5-9, and 42 over the Prause and Slager patents be withdrawn.

With respect to amended independent claim 11, even when combined the Prause and Slager patents fail to disclose or suggest "a device adapted to move said data-gathering probe through a blood vessel at a substantially constant speed, wherein the data-gathering probe gathers data while being moved at the substantially constant speed; and computer code operating on said

computing device, said computer code being adapted to: ... acquire blood-vessel data while the data-gathering probe is moved through the blood vessel at the substantially constant speed during an interval substantially corresponding to a cyclical portion of said heartbeat data, said cyclical portion being a commonly reoccurring portion of said heartbeat data, wherein the computing device is adapted to acquire said blood-vessel data during the interval in response to a probe-trigger marking a beginning of the cyclical portion; and permit analysis of the blood vessel as if the blood vessel was standing still without post processing selection of desired blood-vessel data."

Again, the Prause patent fails to disclose acquiring blood-vessel data while the data-gathering probe is moved through the blood vessel at the substantially constant speed during an interval substantially corresponding to a cyclical portion of said heartbeat data in response to a probe-trigger marking a beginning of the cyclical portion and permit analysis of the blood vessel as if the blood vessel was standing still without post processing selection of desired blood-vessel data. Also, as discussed above, the Slager patent only discloses ECG-gated image acquisition utilizing step-wise pullbacks, not a substantially constant speed pullback. The embodiments of the Prause and Slager patents that utilize constant speed pullbacks require post processing of the data to select the appropriate data for analysis, contrary to the explicit requirements of claim 11. Thus, even when combined the Prause and Slager patents fail to disclose all of the recited limitations of claim 11.

Claims 12-14, 16-18, 43, and 46 depend from and further limit claim 11. Accordingly, Applicants request that the § 103 rejection of claims 12-14, 16-18, 43, and 46 over the Prause and Slager patents be withdrawn.

With respect to independent claim 19, even when combined the Prause and Slager patents fail to disclose or suggest "moving said data-gathering probe through said blood vessel at a substantially constant speed, wherein said data-gathering probe gathers data while being moved at the substantially constant speed ... acquiring blood-vessel data from said data-gathering probe during an interval that substantially corresponds to said cyclical portion of said heartbeat data, wherein the acquiring step is performed while the data-gathering probe is moved through the blood vessel at the substantially constant speed and during the interval in response to a probe-trigger marking a beginning of the cyclical portion; and analyzing the blood vessel as if the blood vessel was standing still without post processing selection of desired blood-vessel data."

Again, the Prause patent fails to disclose acquiring blood-vessel data from said data-gathering probe in response to a probe-trigger during an interval that substantially corresponds to a cyclical portion of heartbeat data while the data-gathering probe is moved through the blood vessel at the substantially constant speed and analyzing the blood vessel as if the blood vessel was standing still without post processing selection of desired blood-vessel data. Also, the Slager patent only discloses ECG-gated image acquisition utilizing step-wise pullbacks, not a substantially constant speed pullback. Further, the embodiments of the Prause and Slager patents that utilize constant speed pullbacks require post processing of the data to select the appropriate data for analysis, contrary to the explicit requirements of claim 19. Thus, even when combined the Prause and Slager patents fail to disclose all of the recited limitations of claim 19.

Claims 21-26, 28, and 29 depend from and further limit claim 19. Accordingly, Applicants request that the § 103 rejection of claims 19, 21-26, 28, and 29 over the Prause and Slager patents be withdrawn.

Independent claims 31 and 39 each recite limitations similar to those discussed above with respect to independent claims 1, 11, and/or 19. For example, claim 31 requires "moving said data-gathering probe through said blood vessel at a substantially constant speed, wherein the data-gathering probe gathers data while being moved at the substantially constant speed; ... substantially synchronizing acquiring multiple sets of blood-vessel data to the cyclical portion of the heartbeat data, wherein the acquiring is performed while the data-gathering probe is moved through the blood vessel at the substantially constant speed during an interval in response to a probe-trigger marking a beginning of the cyclical portion; and analyzing the blood vessel as if the blood vessel was standing still without post processing selection of desired blood-vessel data." Claim 39 requires "moving the catheter at a substantially constant speed; acquiring data while the catheter is moved at the substantially constant speed, wherein the acquiring is performed during an interval in response to a probe-trigger marking a particular point in the cardiac cycle; and analyzing the coronary artery as if the coronary artery was standing still without post processing selection of desired artery data." Claims 32-35 and 37 depend from and further limit claim 31, while claims 40, 44, and 45 depend from and further limit claim 39. Accordingly, Applicants request that the § 103 rejection of claims 31-35, 37, 39, 40, 44, and 45 over the Prause and Slager patents be withdrawn.

2. Slager, Prause, and Vince Patents

Claims 4 and 41 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Prause and Slager patents in further view of U.S. Patent No. 6,200,268 to Vince ("Vince patent"). Claim 4 depends from and further limits claim 1, while claim 41 depends from and further limits claim 39. As shown above, the Prause and Slager patents fail to disclose all of the recited limitations of claims 1 and 39. The Vince patent does not affect these deficiencies. Accordingly, even when combined the Prause, Slager, and Vince patents fail to disclose or suggest all of the recited limitations of independent claims 1 and 39 and, therefore, claims 4 and 41. Thus, Applicants request that the § 103 rejection of claims 4 and 41 over the Prause, Slager, and Vince patents be withdrawn.

3. Slager, Prause, and Dias Patents

Claims 10, 30, and 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Prause and Slager patents in further view of U.S. Patent No. 5,284,148 to Dias ("Dias patent"). Claim 10 depends from and further limits claim 1, claim 30 depends from and further limits claim 19, and claim 36 depends from and further limits claim 31. As shown above, the Prause and Slager patents fail to disclose all of the recited limitations of claims 1, 19, and 31. The Dias patent does not affect these deficiencies. Accordingly, even when combined the Prause, Slager, and Dias patents fail to disclose or suggest all of the recited limitations of independent claims 1, 19, and 31 and, therefore, claims 10, 30, and 36. Thus, Applicants request that the § 103 rejection of claims 10, 30, and 36 over the Prause, Slager, and Dias patents be withdrawn.

IV. Conclusion

It is believed that all matters set forth in the Office Action have been addressed and that all of the pending claims are in condition for allowance. Accordingly, an indication of allowability is respectfully requested.

The Office Action contains characterizations of the claims and the related art to which Applicants do not necessarily agree. Unless expressly noted otherwise, Applicants decline to subscribe to any statement or characterization in this or any other Office Action.

Should the Examiner deem that an interview with Applicants' undersigned attorney would further prosecution, the Examiner is invited to call the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

Date: 4-6-10

Gregory P. Webb
Registration No. 59,859

HAYNES AND BOONE, LLP
901 Main Street, Suite 3100
Dallas, Texas 75202-3789
Telephone: 972-739-8641
Facsimile: 214-200-0853
R-249462_1.DOC

CERTIFICATE OF SERVICE

I hereby certify that this correspondence is being filed with the United States Patent and Trademark Office via EFS-Web on the following date.

Date: 4-6-10

Gayle Conner

Gayle Conner